DOCUMENT RESUME

ED 197 613 FL 012 065

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TITLE Acquisition of the Noun Class System in Zulu. Papers and Reports on Child Language Development, Number 19.
INSTITUTION Stanford Univ., Calif. Dept. of Linguistics.
PUB DATE Aug 80
NOTE 9p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Child Language: Infants: *Language Acquisition: Language Research: Nouns: Psycholinguistics
IDENTIFIERS Prefixes: Zulu

ABSTRACT

The spontaneous speech of two Zulu girls was monitored for use of nominals. The data for one girl, 23 months, are reported in detail. Analysis of prefixed and prefixless nouns in isolated citation forms and in syntactic construction revealed that the child perceived the internal structure of nouns before the age of two, although the prefix often did not occur in surface form. That prefixes were not arbitrary markers on the nouns in syntactic construction can be seen from an analysis of particular prefixes that occurred with noun stems. Of nouns occurring with prefixes, 77% appeared with the correct Zulu prefix for a given noun, as opposed to 23% that occurred with the wrong prefix. Correct prefixes appear to reflect an early lexicalization of prefixes with nouns. Sources within adult Zulu of the child's perception of systematic alternation of noun forms are numerous. The order of acquisition of noun class prefixes is detailed for a period in which the child progressed from a three prefix to a six prefix system. (Author/JB)

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STANFORD UNIV DEPT OF LINGUISTICS - PAPERS AND REPORTS ON CHILD LANGUAGE DEVELOPMENT, NUMBER 19

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ACQUISITION OF THE NOUN CLASS SYSTEM IN ZULU

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ED197613

Bantu languages are characterized by noun class systems and extensive concord based on the prefixes which mark these noun class systems. This paper investigates the acquisition of the noun class system in Zulu, a Bantu language of South Africa. The aim of the study is to shed light on how children begin to deal with the structural properties of concordial languages, a relatively unexplored area in language acquisition study. It also provides some insight into the development of elaborate morphological systems, a problem for which we rely primarily on historical evidence.

This paper attempts to account for the differences between the adult noun class system of Zulu and the regularities observed in children's speech output. It investigates two issues in the child's acquisition of the noun class system, I. how and when the child learns about the internal structure of nouns and II. the order of acquisition of noun class prefixes in Zulu.

Every noun in Zulu belongs to a form class, marked by a prefix on the noun stem. The prefix is, synchronically speaking, a morphological marker of noun class membership and number. The internal structure of nouns in Zulu is illustrated in (1) where prefixes are underlined:

(1)	Noun class	Number	Noun Form	Gloss
	1/2	sg.	umuntu	'person'
	1/2	pl.	abantu	'people'
	5/6	sg.	ihashi	'horse'
	5/6	pl.	amahashi	'horses'

The entire noun class system in Zulu is given in (2):

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(2)

Noun Class	Number Sg.	Pl.
1/2	umu-	aba-
1a/2a	u:-	o:, awo-
3/4	umu-	imi-
5/6	i:-	ama-
7/8	isi-	izi-
9/10	iN-	iziN-
9/6	iN-	ama-
11/10	u:-	iziN-
14	ubu-	
15	uku-	

Zulu has ten noun classes, eight with singular/plural contrasts, with two classes (14 and 15) unmarked for number. The basis of the Zulu gender system is a semantic division of objects into formal categories. In contemporary Zulu there is clear correlation between form and semantic class for classes 1/2 and 1a/2a in which most nouns refer to people. Only historically was there something like this for other classes, e.g. animal names in class 9/10, tree and river names in class 3/4 and so on. The majority of present day noun classes are simply morphological classes. The noun class system itself determines extensive concord within the language whereby grammatical categories must be brought into agreement with the prefix of the subject noun.

The data used for this paper is based on the spontaneous speech of two Zulu girls, Lindi, aged 23 months and Nqoba, 26 months, at the onset of the study. The children live in Soweto, the largest black city in South Africa, located ten miles outside of Johannesburg. The children are therefore acquiring their language in a multi-lingual urban environment.

I. The internal structure of nouns

Lindi's speech at 23 months was highly nominal. She used noun stems without prefixes in approximately half of her nouns. Nqoba, on the other hand, at 26 months, used prefix plus noun stems in 90% of her noun forms. As Lindi's speech provides insight into how the child handles noun structure before the age of two, I discuss her data in detail.

At first glance, Lindi's data showed apparent random variation between prefixed and prefixless nouns, e.g. uveselasi (3), iveselasi (1), veselasi (1) for uveselasi 'vaseline'. However, a comparison of citation forms with nouns in syntactic

construction revealed systematic differences in the use of noun form.

In citation forms, Lindi employed thirty stems without prefixes compared to eight with prefixes and the salient semantic content of the noun was more regularly represented by the noun stem alone. No segmentation errors occurred. The child appeared to have made a morphological analysis of the noun form and employed only that part of the noun which had semantic content. If the child had had no knowledge of the internal structure of nouns, she would have been unable to correctly extract stems only. The general use of noun stems only in citation forms may occur because of an overgeneralization of rules governing vocative forms. Vocative forms in Zulu omit the initial vowel of the prefix and frequently occur as single words in adult speech. The child may deduce that all single word utterances occur without prefixes.

Turning now to syntactic constructions, Lindi appeared to arbitrarily use nouns with prefixes and without them. An analysis of these variations, however, revealed that the child's use of prefixes was tied to a search for the correct phonological and syntactic context in which to use prefix and stem. The source of variation in the child's speech is to be found in rules affecting vowel-vowel sequences across word boundaries (hence-forth V #V) in noun-verb or verb-noun constructions in adult Zulu. Vowel deletion rules in syntactic construction are shown in (3):

(3) 1. Delete the first vowel (V) of a V#V sequence when a verb is followed by a vowel-commencing word.

$$V\#V \longrightarrow \emptyset / ___ \#_{v} V$$

2. Delete the second V of a V#V sequence with 1st and 2nd person pronouns and after demonstratives.

$$V\#V \longrightarrow \emptyset / V\#___$$

In (3)1. deletion of the first vowel in a V#V sequence in spoken Zulu requires a following noun to occur with a vowel, i.e. with a full prefix. In (3)2. deletion of the second vowel in a V#V sequence effectively produces nouns without the initial vowel of the prefix.

These rules of vowel elision in Zulu are reformulated in (4) as strategies for sentence construction employed by the child:

(4) Strategy I. Delete the first V of a V#V sequence.

Child	Written Zulu	Gloss
shay'unana	shaya unana	'hit the doll'
fak'incokisi	faka insokisi	'put the socks on'
Lindi diz'ubaba	uLindi ugeza ubaba	'Papa washes Lindi'

Strategy II. Delete the second V of a V#V sequence.

Child	Written Zulu	Gloss
udeza'Papa	uyageza uPapa	'Papa washes'
kwati'Lindi	ukwatile uLindi	'Lindi is cross'

Although the use of a prefix was unpredictable for any single utterance, there were regularities which typified Lindi's speech. The number of times she employed Strategy I or II is given in (5):

(5)

Strategy	Age	
	23 mos.	24.5 mos.
I	19	2
II	6	9

At 23 mos. the child predominantly used Strategy I and nouns occurred with prefixes. At 24.5 mos. the child employed Strategy II and nouns incorrectly occurred without prefixes. Six weeks after her initial correct usage of noun form, her data showed a change in strategy which violated the general rule governing V#V in verb-noun and noun-verb constructions.

The explanation for overgeneralizing the incorrect strategy, i.e. Strategy II, and thus for an increase in the number of nouns employed without prefixes, can be sought in the child's developing syntax. By 24.5 mos. the child began to use locatives and instrumentals which are marked by prefixes on the noun. It is hypothesized that in order to reduce morphological complications in noun form due to a burgeoning syntax, the child increasingly elided the second vowel. This led to the retention of the high frequency tense marker /-a/ of the verb and avoided the problem of choosing between prefixed noun class, locative, and instrumental markers on the noun.

In summary, analysis of prefixed and prefixless nouns in isolated citation forms and in syntactic construction revealed that the

child perceived the internal structure of nouns before the age of two, although the prefix often did not occur in surface form. That prefixes were not arbitrary markers on the nouns in syntactic construction can be seen from an analysis of particular prefixes which occurred with noun stems. Of nouns occurring with prefixes, 77% appeared with the correct Zulu prefix for a given noun, as opposed to 23% which occurred with the wrong prefix. Correct prefixes appear to reflect an early lexicalization of prefixes with nouns.

Sources within adult Zulu of the child's perception of systematic alternation of noun forms are numerous. In vocatives, nouns drop the initial vowel of the prefix and contrast with non-vocative forms where nouns occur with full prefixes, e.g. Lindi, woza lapha 'Lindi, come here' and uLindi uwile 'Lindi fell'. Although nouns affected by the vocative/non-vocative contrast are a small subset of nouns, they may have disproportionate importance to the child who frequently hears his own name and those of others with and without full prefixes.

Secondly, the majority of noun classes have a singular/plural contrast, indicated by a change of prefix, e.g. umuntu 'person' and abantu 'people'. Formal alternation on a common stem may focus the child's attention on the internal structure of the noun.

The agreement system is another source for perception of noun structure. In Zulu, sentence constituents in construction with a head noun are brought into agreement with the noun class of that noun. Furthermore, these agreement morphemes are alliterative with the prefix of the head noun, as seen in the repetition of /ba-/ in Abafana ababili bayahamba. Repetition throughout the sentence of partially similar formal elements may reinforce the separate morphemic status of the noun class prefix.

II. Order of acquisition of noun class prefixes

In order to communicate effectively in Zulu, children must learn to use the noun class system shown in (2) above. The development of the two children's competence is given in (6):

(6)

23–26 mos.			29 mos.			36 mos.		
Noun Class	Sg.	Pl.	Noun Class	Sg.	Pl.	Noun Class	Sg.	Pl.
			1/2	umu-	aba-	1/2 **	umu-	**aba-
1a/2a	u:-		1a/2a	u:-		1a/2a **	u:-	
			3/4	umu:-		3/4	umu:-	
5/6	i:-*ama-		5/6	i:-	ama-	5/6 **	i:-	**ama-
			7/8	isi-		7/8	isi-	izi-
			9/10	iN-		9/10 **	iN-	

* Only in Nqoba's data
** Frequently used noun class prefixes

The data under 23–26 months is taken from the speech of both children. The subsequent development at 29 and 36 months is traced in Nqoba's speech development because Lindi's speech was followed for a short period only.

Classes 1a/2a singular, /u:-/ and class 5/6 singular /i:-/ are the first noun class prefixes used by the children. Nqoba's data included a third prefix, class 5/6 plural /ama-/. Factors influencing the early emergence of these prefixes are discussed in detail for the insight they may provide into the acquisition of complicated gender systems.

It first appeared that /u:-/ was acquired early because of its transparent correlation between form and meaning. Although the semantic basis of morphological classes is greatly attenuated in contemporary Zulu, there remains a clear correlation between form and semantic class for the two classes referring to human beings. Class 1/2 contains nouns referring to category names for humans, e.g. boy, person, child. Class 1a/2a contains nouns referring to personal names and kinship terms. If the correlation between form and semantic class is a factor in acquisition, we would expect early emergence of these two classes. In fact, both children used many personal names of people and personalized names of pets and toys. These names belong to class 1a/2a whose singular prefix is /u:-/. The human marker for class 1a/2a did not prevent over-generalization of /u:-/ to non-human, non-personalized nouns belonging in other classes, e.g. the non-human noun ingubo meaning 'blanket' occurred as ungubo with the /u:-/ prefix. It therefore seems that the semantic content of a noun class may focus the child's attention on the formal properties of a noun class, but is not in itself an exclusively defining criterion for class membership.

The semantic argument for early acquisition of the prefix /u:-/ must be supplemented by a general perceptual explanation for the emergence of one, not two, human classes. Children begin to talk about concrete objects in their immediate environment: people, animals, food, clothing, etc. This perceptual determination of the content of early vocabulary potentially commits the child to a morphological analysis, simply because every noun belongs to a morphologically complex noun class. Class 1/2 did not emerge early because the child did not talk about people as instances of a class, e.g. boy, person; rather, she talked about individuals, e.g. Mother, Biake, doll. This subtle semantic distinction in subclasses of human nouns is reflected in the child's acquisition of noun class prefixes in Zulu.

The early acquisition of class 5/6 singular /i:-/ shows the influence of perceptual and morphological factors. Although a miscellaneous class semantically, class 5/6 contains nouns referring to many common objects and is furthermore a major class into which foreign words are borrowed from English and Afrikaans. Besides nouns referring to people, the majority of both children's vocabulary items at two years were foreign borrowings in class 5/6, e.g. ithush 'Kleenex', ireed 'radio', ikati 'cat', iswidi 'sweet', ibhodlela 'bottle' and ikama 'room'. The frequency of foreign borrowings denoting common objects in the urban Sowetan environment in which the children lived would be enough to make the child attend to the constant /i:-/ prefixed to these nouns.

It is tempting to speculate that the early use of /u:-/ and /i:-/ reflects morphological recapitulation in ontogeny of maximal phonetic contrasts. It is suggested that the first morphological classes to appear are perhaps those which most closely approximate maximal phonetic oppositions, [i] and [u]. Of all the [i] and [u] commencing prefixes, the perceptual salience of the simple long, high front vowel /i:-/ and the long, high back vowel /u:-/ is underscored by their phonetic properties. The presence of the prefix /ama-/ in Nqoba's data can be interpreted as consistent with the hypothesis, by virtue of its vocalic structure containing a vowel maximally distinct from [i] and [u], viz. [a]. Their phonetic properties may make these noun classes more perceptually salient to the child than others.

The early function of prefixes seems to be as gender markers. It was just possible that Nqoba's use of class 5/6 singular and plural, /i:-/, and /ama-/, represented a singular/plural contrast. However, analysing the context in which /ama-/ occurred suggested

that the prefix did not have plural meaning for the child. For example, Nquoba picked up a single penny and said, amapenny, 'pennies'.

The criterion for productive use of prefixes in subsequent development was frequency of occurrence in the child's data. By age 3, Nqoba's data was characterized by a wide range of nouns which occurred in classes 5/6 singular and plural and class 9/10 singular, as well as a smaller set of frequently occurring nouns in class 1/2 and 1a/2a, the human classes. The child productively marked singular and plural nouns in classes 1/2 and 5/6. Not unexpectedly, awareness of the derived function of prefixes occurred in the perceptually salient classes.

The child progressed from a 3 to 6 prefix system. In view of the vast amount of grammatical and morphological information acquired by the child between the age of two and three, it is surprising that the child had not learned more of the noun class system. A conclusion based on a frequency count, however, may overstate the case. Although the child did not use more of the system, her infrequent but correct use of nouns in other form classes may indicate wider knowledge of the prefix system than was apparent. Pragmatic factors may also contribute to an explanation of the child's prefix system. The child's urban Sowetan background may favour acquisition of certain classes, e.g. those in which foreign borrowings occur. In addition, language contact and communication pressure in an urban, multi-lingual society appear to be simplifying complicated Bantu morphologies. The child's data may reflect the most productive prefixes in a changing Zulu noun class system.

References

Doke C M. 1954 The southern Bantu languages. London; Oxford University Press

Kunene, E. 1979. The acquisition of SiSwati as a first language: a morphological study with special reference to noun prefixes, noun classes and some agreement markers Unpublished doctoral dissertation. UCLA.

Traill, A. 1970. Transformational grammar: the case of an Ndebele speaking aphasic. Journal of the South African Logopedic Society, vol. M, number 1.